

In the Claims

Claims 1 to 20 are pending in the application.

Claims 1 to 20 are rejected.

Claim 20 is objected to.

Explanation of Amendments in the Claims:

1. (currently amended) A heat exchanger device for use with a catalytic heater having a heat radiating surface, the device comprising:

a heat exchanger comprising an inlet header and an outlet header, each for receiving heat exchanger fluid therethrough [(:)] , and at least one heat exchanger tube for communicating the heat exchanger fluid between the inlet header and the outlet header; and

a frame for supporting the headers and said at least one heat exchanger tube on the catalytic heater such that said at least one heat exchanger tube extends across the heat radiating surface of the catalytic heater;

heat exchanger tubing for communicating between the headers and a target area to be heated;

a pump for circulating the heat exchanger fluid through the headers and the heat exchanger tubing, the pump being connected in series with the heat exchanger tubing directly between the outlet header of the heat exchanger and the target area for pumping from the heat exchanger to the target area; and

a surge tank at atmospheric pressure, spanning a top of the heat exchanger and communicating in series with the inlet header through a feed tube from the surge tank to the inlet header, for receiving heat exchanger fluid from the target area and for supplying heat exchanger fluid directly to the inlet header by gravity feed.

2. (original) The device according to Claim 1 wherein the frame is arranged to support the inlet and outlet headers to span the heat radiating surface of the catalytic heater.

3. (original) The device according to Claim 1 wherein there is provided a plurality of heat exchanger tubes communicating between the inlet and outlet headers.

4. (cancelled)

5. (cancelled)

6. (currently amended) The device according to Claim 5 1 wherein the surge tank

includes a vent for maintaining the surge tank at atmospheric pressure.

7. (original) The device according to Claim 1 wherein the inlet header includes an inlet opening for receiving the heat exchanger fluid adjacent a bottom end of the device and the outlet header includes an outlet opening for releasing the heat exchanger fluid adjacent a top end of the device.

8. (original) The device according to Claim 1 wherein there is provided a probe of heat conductive material supported for communication with the heat exchanger fluid passing through the device, the probe being arranged to be coupled to a thermostatic element of the catalytic heater.

9. (original) The device according to Claim 1 wherein there is provided a temperature gage in communication with heat exchanger fluid adjacent both the inlet header and the outlet header.

10. (currently amended) A heat exchanger device in combination with heating system comprising a catalytic heater having a heat radiating surface and a thermostatic control; the heat exchanger device comprising:

a heat exchanger comprising [::] an inlet header and an outlet header, each for receiving heat exchanger fluid therethrough [::] and at least one heat exchanger tube communicating between the inlet header and the outlet header; and

a frame supporting the headers and said at least one heat exchanger tube on the catalytic heater such that said at least one heat exchanger tube extends across the heat radiating surface of the catalytic heater;

~~and a fluid-circulating system for circulating the heat-exchanger fluid through the heat-exchanger and a target area to be heated a pump for circulating the heat exchanger fluid through the headers and the heat exchanger tubing, the pump being connected in series with the heat exchanger tubing directly between the outlet header of the heat exchanger and the target area for pumping from the heat exchanger to the target area;~~

a surge tank at atmospheric pressure and communicating in series with the inlet header for receiving heat exchanger fluid from the target area and for supplying heat exchanger fluid directly to the inlet header by gravity feed; and

a temperature probe operatively connected with the thermostatic control of the catalytic heater, the probe being supported in communication with the heat exchanger fluid in the surge tank.

11. (currently amended) The system device according to Claim 10 wherein the heat exchanger spans substantially the entire heat radiating surface of the heater.

12. (cancelled)

13. (currently amended) The system device according to Claim 10 wherein there is provided a pump for circulating the heat exchanger fluid including an inlet coupled to the outlet header and an outlet coupled to the inlet header.

14. (currently amended) The system device according to Claim 10 wherein the frame includes a generally rectangular housing supporting the headers and said at least one heat exchanger tube therein, the housing being coupled to the catalytic heater by threaded fasteners.

15. (currently amended) The system device according to Claim 14 wherein the frame of the heat exchanger is similar in dimensions to the heat radiating surface of the catalytic heater such that the headers are supported along opposing sides of the heat radiating surface and said at least one heat exchanger tube spans between the headers in a generally common plane with the headers.

16. (currently amended) A method of heating a target area using a catalytic heater having a heat radiating surface, the method comprising:

providing a catalytic heater having a heat radiating surface;

providing a heat exchanger having an inlet header, an outlet header and at least one heat exchanger tube communicating between the inlet header and the outlet header;

supporting said at least one heat exchanger tube to extend across the heat radiating surface of the catalytic heater; and

circulating heat exchanger fluid through the heat exchanger and the target area

providing a surge tank in communication with the inlet header and receiving heat exchanger fluid directly from the target area;

locating the surge tank to span the top of the heater exchanger;

venting the surge tank to atmospheric pressure;

supplying heat exchanger fluid to the inlet header from the surge tank at atmospheric pressure by gravity feed through a feed tube extending from the surge tank to the inlet header;

pumping the heat exchanger fluid directly from the outlet header of the heat exchanger to the target area.

17. (currently amended) The method according to Claim 16 including connecting a thermostat operating the catalytic heater to the heat exchanger in communication with the heat exchanger fluid circulated therethrough in the surge tank.

18. (original) The method according to Claim 16 wherein the heat radiating surface lies in a radiating plane of the heater and wherein the method includes providing a plurality of heat exchanger tubes to span substantially the entirety of the heat radiating surface of the catalytic heater parallel to the radiating plane of the heater.

19. (cancelled)

20. (cancelled)

21. (new) The method according to Claim 18 including locating the surge tank to span a top side of the heat exchanger.